III. LISTING OF THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Original) A method for polishing a wafer, the method comprising the steps of:

providing a semiconductor wafer having a topography including a first topography location and a different second topography location;

applying a slurry that includes an additive for forming a polishing inhibiting layer in situ across the topography, the polishing inhibiting layer creating a polishing rate for the topography that is non-linear with polishing pressure; and

chemical mechanical polishing the topography.

2. (Original) The method of claim 1, wherein the additive to form the polishing inhibiting layer includes one of: an anionic surfactant and a cationic surfactant.

3. (Original) The method of claim 2, wherein the cationic surfactant includes a chemical structure selected from the group consisting of:

a) $[CH_3(CH_2)_xN(R)]M$, wherein M is selected from the group consisting of: Cl, Br and I, x equals an integer between 2 and 24, and the R includes three carbon-based functional groups, each having less than eight carbon atoms; and

b) C_pH_qQN, where Q is selected from the group consisting of: Cl, Br and I, and $p > 8$ and $q > 20$.

4. (Original) The method of claim 1, wherein the carbon-based functional groups are selected from the group consisting of: CH_3, CH_2OH, C_2H_4OH, C_2H_5, C_3H_6OH and C_3H_7.

5. (Original) The method of claim 1, wherein the cationic surfactant includes C_pH_qQN, and Q is Cl, p = 21, and q = 38, resulting in cetylpyridinium chloride ($C_{21}H_{38}ClN$).

6. (Original) The method of claim 1, wherein the cationic surfactant includes one of: cetyltrimethyl ammonium bromide (CTAB), $[CH_3(CH_2)_{15}N(CH_3)_3]Br$; cetyldimethylethyl ammonium bromide (CDB), $[CH_3(CH_2)_{15}N(CH_3)_2CH_2OH]Br$; $[CH_3(CH_2)_xN(CH_3)_3]Br$, where x equals an integer between 2 and 24; and $[CH_3(CH_2)_xN(CH_3)(C_2H_5)(C_3H_7)]Br$, where x equals an integer between 2 and 24.

7. (Original) The method of claim 1, wherein the anionic surfactant includes at least one of: sodium sulfate, sodium dodecyl sulfate, sodium lauryl sulfate, sodium stearate and sodium tetradecyl sulfate.

8. (Original) The method of claim 1, wherein the polishing inhibiting layer decreases a polishing rate of one of the topography locations to a level defined according to: $PR = k * (P - P_{crit})$,

where PR is the polishing rate, k is a coefficient of friction of a slurry, P is a polishing pad polishing pressure at one of the topography locations, and P_{crit} is a critical removal polishing

pressure to be applied for removal of the polishing inhibiting layer.

9. (Original) The method of claim 8, further comprising the step of removing the polishing inhibiting layer by polishing at a pressure greater than the critical removal polishing pressure.

10. (Original) The method of claim 8, wherein the critical removal polishing pressure P_{crit} is no less than approximately 2 psi and no greater than approximately 20 psi.

11. (Original) The method of claim 8, wherein the polishing step includes applying a downforce of no more than 4 psi above the critical removal polishing pressure P_{crit}, and no less than 4 psi below the critical removing polishing pressure P_{crit}.

12. (Original) The method of claim 1, further comprising the step of controlling a pH level of the slurry to be between an isoelectric point of the topography and an isoelectric point of a polishing particle of the slurry to ensure adhesion of the polishing inhibiting layer to a surface of the topography, wherein the controlling step includes adding at least one of an acid and a base.

13. (Original) The method of claim 12, wherein the acid is selected from the group consisting of: nitric acid, hydrochloric acid, phosphoric acid and sulfuric acid, and the base selected from the group consisting of: potassium hydroxide and sodium hydroxide.

14. (Original) The method of claim 1, wherein the difference in topography between the first

topography location and the second topography location is at least one of: height and pattern density.

15. (Original) The method of claim 1, wherein the topography includes silicon dioxide, the slurry includes a polishing particle including ceria, the additive includes cetyltrimethyl ammonium bromide (CTAB) $[CH_3(CH_2)_{15}N(CH_3)_3]Br$, and a pH level of the slurry is no less than approximately 2 and no more than approximately 7.

16. (Original) The method of claim 1, wherein the topography includes silicon nitride, the slurry includes a polishing particle including silica, the additive includes sodium dodecylsulfate, and a pH level of the slurry is no less than approximately 3 and no more than approximately 9.

17. (Withdrawn) A wafer polishing slurry, comprising:

a plurality of polishing particles;

a solvent in which the polishing particles are suspended; and

a polishing inhibiting layer forming additive for forming a layer on a surface of a wafer in situ to inhibit a polishing rate thereof, the polishing inhibiting layer creating a polishing rate for the topography that is non-linear with polishing pressure.

18. (Withdrawn) The slurry of claim 17, wherein the polishing inhibiting layer forming additive includes one of: an anionic surfactant and a cationic surfactant.

19. (Withdrawn) The slurry of claim 18, wherein the cationic surfactant includes a chemical structure selected from the group consisting of:

a) $[CH_3(CH_2)_xN(R)]M$, wherein M is selected from the group consisting of: Cl, Br and I, x equals an integer between 2 and 24, and the R includes three carbon-based functional groups, each having less than eight carbon atoms; and

b) C_pH_qQN, where Q is selected from the group consisting of: Cl, Br and I, and $p > 8$ and $q > 20$.

20. (Withdrawn) The slurry of claim 19, wherein the carbon-based functional groups are selected from the group consisting of: CH_3, CH_2OH, C_2H_4OH, C_2H_5, C_3H_6OH and C_3H_7.

21. (Withdrawn) The slurry of claim 19, wherein the cationic surfactant includes C_pH_qQN, and Q is Cl, $p = 21$, and $q = 38$, resulting in cetylpyridinium chloride ($C_{21}H_{38}ClN$).

22. (Withdrawn) The slurry of claim 18, wherein the cationic surfactant includes one of:

cetyltrimethyl ammonium bromide (CTAB), $[CH_3(CH_2)_{15}N(CH_3)_3]Br$;

cetyldimethylethyl ammonium bromide (CDB), $[CH_3(CH_2)_{15}N(CH_3)_2CH_2OH]Br$;

$[CH_3(CH_2)_xN(CH_3)_3]Br$, where x equals an integer between 2 and 24; and

$[CH_3(CH_2)_xN(CH_3)(C_2H_5)(C_3H_7)]Br$, where x equals an integer between 2 and 24.

23. (Withdrawn) The slurry of claim 18, wherein the anionic surfactant includes at least one of: sodium sulfate, sodium dodecyl sulfate, sodium lauryl sulfate, sodium stearate and sodium

tetradecyl sulfate.

24. (Withdrawn) The slurry of claim 17, wherein the polishing inhibiting layer is removable from the surface at a critical removal polishing pressure P_{crit} that is no less than approximately 2 psi and no greater than approximately 20 psi.

25. (Withdrawn) The slurry of claim 17, wherein the slurry has a pH level between an isoelectric point of the surface and an isoelectric point of the plurality of polishing particles to cause adhesion of the layer to the surface.

26. (Withdrawn) A polishing inhibiting layer forming additive for a chemical mechanical polishing slurry, the additive comprising:

a surfactant having a chemical structure selected from the group consisting of:

a) $[CH_3(CH_2)_xN(R)]M$, wherein M is selected from the group consisting of: Cl, Br and I, x equals an integer between 2 and 24, and the R includes three carbon-based functional groups, each having less than eight carbon atoms; and

b) C_pH_qQN, where Q is selected from the group consisting of: Cl, Br and I, and $p > 8$ and $q > 20$,

wherein the surfactant forms a polishing inhibiting layer creating a polishing rate that is non-linear with polishing pressure.

27. (Withdrawn) The additive of claim 26, wherein the surfactant includes one of:

cetyltrimethyl ammonium bromide (CTAB), $[CH_3(CH_2)_{15}N(CH_3)_3]Br$ and cetyldimethylethyl ammonium bromide (CDB), $[CH_3(CH_2)_{15}N(CH_3)_2CH_2OH]Br$.

28. (Withdrawn) The additive of claim 26, wherein the polishing inhibiting layer is removable at a critical removal polishing pressure P_{crit} that is no less than approximately 2 psi and no greater than approximately 20 psi.

29. (Withdrawn) The additive of claim 26, wherein the slurry has a pH level between an isoelectric point of a surface to be polished and an isoelectric point of a plurality of polishing particles therein to cause adhesion of the layer to the surface.

30. (Withdrawn) The additive of claim 26, wherein the surfactant includes C_pH_qQN, and Q is Cl, p = 21, and q = 38, resulting in cetylpyridinium chloride ($C_{21}H_{38}ClN$).